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REPORT ON INSPECTION TO DETERMINE COMPLIANCE WITH THE FEDERAL PCB DISPOSAL AND MARKING REGULATIONS

AEROVOX INDUSTRIES, INC.
740 BELLEVILLE AVENUE
NEW BEDFORD, MASSACHUSETTS 02741

JUNE 18, 1981

PERFORMED FOR:

U.S. ENVIRONMENTAL PROTECTION AGENCY
ENFORCEMENT DIVISION, AIR COMPLIANCE
1 CAMBRIDGE STREET
JFK FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02741

PERFORMED BY:

VERSAR INC.
6621 ELECTRONIC DRIVE
SPRINGFIELD, VIRGINIA 22151

1 copy of each please.
JPrince

Objective

The purpose of this inspection was to document and verify the compliance of Aerovox Industries, Inc. with Federal PCB Disposal and Marking Regulations (40 CFR 761) published in Part VI of the Federal Register on May 31, 1979. The specific objective of this inspection was to document and verify the PCB disposal and storage practices at this facility.

I. Facility and Responsible Official

Aerovox Industries, Inc.
740 Belleville Avenue
New Bedford, Massachusetts 02741

Norman Butterworth, Manager, Industrial Engineering
Phone: (617) 944-9661

II. Inspection Date and Participants

June 18, 1981

Aerovox Industries, Inc. - Clifford H. Tuttle, Jr., President
Norman Butterworth, Manager, Industrial Engineering

U.S. EPA - Jim Oakun, Environmental Scientist
Steven Fradkoff, Environmental Engineer

Versar Inc. - Robert F. Murphy, Compliance Auditor
Paul E. Schaffman, Compliance Auditor

III. Inspection Findings

According to the facility PCB Annual Reports, and based on inspection of the plant, there were four PCB transformers, and an unknown number of mineral oil transformers in service at Aerovox Industries, Inc. There were also three PCB capacitors stored for reuse. The facility has purchased millions of pounds of PCB Aroclor from Monsanto in the past (See Attachments 1 and 2). The NPDES water discharges, the former PCB impregnation tanks, and the capacitor casing degreasing operation were all investigated during the inspection.

All four of the PCB transformers, and five mineral oil transformers were observed by the inspectors and are described in Table 1. The facility is in the process of reclassifying three of its PCB transformers by refilling the transformers with RTEmp fluid and filtering the fluid for residual PCBs, using an EPAC filter system. The two General Electric PCB transformers, which have been using the EPAC filtering system since 2/15/81, do not have the M_L PCB labels affixed to them. These transformers have not been tested for PCB concentration since the EPAC system commenced operation. The third transformer which is using the EPAC filter system, is a Westinghouse transformer, and it has an M_L PCB label affixed. According to the most recent PCB Annual Report for the facility, the fourth PCB transformer is located in the backyard substation (See Figure 1). The nameplate of this elevated transformer could not be read to verify whether it was a PCB transformer, and the unit was not marked with the M_L PCB label (See Table 1 and Attachment No. 4).

There were three Cornell-Dubilier large, high-voltage PCB capacitors in the machine shop on the third floor of the main manufacturing building. Mr. Butterworth stated that these units are stored for reuse in electrical equipment. All three were marked with M_L PCB labels and were not leaking. According to Mr. Butterworth, there are no PCB capacitors remaining at this facility from the previous PCB capacitor manufacturing operations. Aerovox discontinued the manufacture of PCB capacitors in October 1978.

Aerovox Industries, Inc. is using dioctyl phthalate (DOP) as a substitute for Askarel in many of their new capacitors. An oil sample was collected from Impregnation Tank No. 3, from which capacitors were currently being filled with DOP. No PCB contamination was detected (See Table 2). In the past, capacitors were filled with Askarel that was stored in this same impregnation tank. No PCB testing results could be furnished by Mr. Butterworth regarding the PCB concentration of the fluids in the impregnation tanks, or bulk DOP storage tanks, since the PCB fluid was removed from the system.

Aerovox Industries, Inc. had previously purchased millions of pounds of Aroclor from Monsanto for use in their capacitors. Based on a PCB mass balance for 1971-1975, as presented in Attachment No. 2, small amounts of

TABLE 1. TRANSFORMERS INSPECTED AT AEROVOX INDUSTRIES, INC.

Type	Rating (kva)	Substation	Fluid	M_1 PCB Label	Gallons
Westinghouse	2,000	Primary	Mineral Oil	No	790
Westinghouse	167	Primary	Mineral Oil	No	-
Westinghouse	167	Primary	Mineral Oil	No	-
Westinghouse	167	Primary	Mineral Oil	No	-
General Electric	500	Receiving	Pyranol/R-Temp	No	192
General Electric	500	Receiving	Pyranol/R-Temp	No	192
Pennsylvania	500	Backyard	PCB (?)	No	-
RTE	500	Backyard	Mineral Oil	No	225
Westinghouse	57	Inner	Inerteen/R-Temp	Yes	91

TABLE 2. DESCRIPTION OF PCB SAMPLES COLLECTED AT AEROVOX INDUSTRIES, INC.
NEW BEDFORD, MASSACHUSETTS

Sample Number	Description	PCB Concentration (ppm)	Aroclor Type
1	Oil from DOP impregnation tank	<1	---
2	Soil from culvert 002	200	1254
3	Soil from Outfall 002	22,000	1254
4	Soil from Outfall 001	40	1242
5	Oil from TCE (still bottoms)	170	1242
6	Soil from stained ground in backyard substation	24,000	1254
7	Soil from culvert 001 (upstream)	11,000	1242
8	Soil from culvert 001 (downstream)	23,000	1242
9	Oil from drum of waste DOP	<1	---

PCBs have been discharged through the two NPDES outfalls (001 and 002) into the Acushnet River. Aerovox Industries, Inc. has installed a water recirculation system at their plant, and now rarely discharge effluent, and when, only through Outfall 001. Acushnet Company leases property from Aerovox Industries, Inc., and currently contributes almost all of the effluent water which leaves the Acushnet facility through Outfall 002. Oil-impregnated soil was observed in the culverts leading to and at both outfalls (See Photographs in Attachment B). Five soil samples were collected associated with Outfalls 001 and 002. Locations are shown in Figure 1 and the PCB analytical results are reported in Table 2. PCB analytical results of these five sampling points range from 40 ppm to 23,000 ppm PCB Aroclor 1242.

A soil sample was collected from a stained area in the backyard power substation (See Photograph No. 5). A concentration of 24,000 ppm PCBs was found in this sample (See Table 2). According to Mr. Oakum of the U.S. EPA, this area was used for drum storage within the last month.

Aerovox Industries, Inc., had a capacitor casing degreasing operation utilizing trichloroethylene (TCE) as the degreasing solvent. Degreasing residues (still bottoms) from this process are stored in 55-gallon drums in an undiked room which has a concrete floor. Three full 55-gallon drums with black on red hazardous waste labels, but no M_L PCB labels, were observed in this storage area. An oil sample collected from one of these drums revealed a PCB concentration of 170 ppm (Table 2). According to Mr. Butterworth, the facility generates approximately one drum per week, and disposes of the drums through Recycling Industries. Mr. Butterworth also stated that Aerovox Industries, Inc. occasionally collects composite samples from these drums, and tests them for PCBs. PCB concentrations in excess of 50 ppm have been found. Mr. Butterworth did not furnish the inspectors with prior sample analyses for PCB testing from this degreasing process.

The waste oil storage area was located in the basement of the Main Manufacturing Building at Aerovox Industries, Inc. (See Figure 1). Approximately twenty 55-gallon drums of non-reclaimable DOP and compressor oils are stored for disposal on pallets above a cement floor. All of the drums have the black on red hazardous waste labels affixed. The area is

not diked, and there are no M_L PCB labels on the drums. A sample from one of the drums, which contained non-reclaimable DOP, was collected and showed no PCB contamination (Table 2).

The facility has a 14 x 14 foot PCB storage area, with a six-inch concrete curb containment wall, and a concrete floor. No PCB articles were in the storage area at the time of the inspection. The storage area was marked with the M_L PCB label. Most of the PCB articles previously in storage at Aerovox Industries, Inc., have been hauled to Recycling Industries, Inc., in Braintree, Massachusetts, where they are being stored and are awaiting disposal at an approved site. A disposal invoice for Aerovox Industries, Inc. is shown in Attachment No. 5. The previous disposal of a PCB transformer on 12/28/79, and the separate disposal of its 1750 kgs of PCB fluid, are explained on Page 2 of Attachment No. 4.

Aerovox Industries, Inc. had PCB annual documents for the 7/1/78 to 7/1/79, and 7/1/79 to 7/1/80 reporting years (See Attachments 3 and 4). These annual documents pertain only to electrical equipment and are not summarized on a standard calendar year basis.

According to Mr. Butterworth, there were no hydraulic systems which contain more than one quart of hydraulic fluid at Aerovox Industries, Inc. and that press machines were electric-powered at this facility.

IV. Facility Description

Aerovox Industries, Inc., is a capacitor manufacturer, which produces paper, paper oil, electrolytic and mica capacitors. The facility manufactured PCB capacitors from 1947 to 1978. The plant employs approximately 850 people, and is in operation 24 hours a day, seven days a week. Presently, Aerovox Industries, Inc. leases some of their property to Acushnet Company for their own capacitor manufacturing operation.

The site of the present plant was formerly a textile mill since 1921. In 1938, Aerovox Corporation bought the plant and moved its capacitor operations from New York City to New Bedford. On January 1, 1973, the facility was sold to Belleville Industries, Inc., which subsequently changed its name to Aerovox Industries, Inc. This facility is a subsidiary of RTE Corporation of Waukesha, Wisconsin.

V. Inspection Summary

The inspectors arrived at the facility accompanied by the EPA personnel on the morning of June 18, 1981, and met Mr. Tuttle, and Mr. Butterworth. Mr. Tuttle was presented with the inspectors' credentials, a "Notice of Inspection" and a "Notice of Confidentiality." Mr. Tuttle signed both notices and returned them to the inspectors. The EPA personnel seeing that the inspectors had no problem with entry, left the facility.

The inspectors commenced their visual inspection of Aerovox Industries, Inc. at the capacitor fluid-filling operation, where they collected an oil sample from Impregnation Tank No. 3. The inspection team next stepped outside where they sampled and photographed NPDES Outfalls 001 and 002, as well as culvert 002. The inspectors proceeded to inspect the PCB transformers at the facility and documented their findings in Table 1 of this report. The inspection team moved to the TCE still bottoms drum storage area, where they collected an oil sample from one of the drums. The inspectors again stepped outside and proceeded to collect two soil samples from culvert 001. Finally, the waste oil storage area and the PCB storage area were inspected and documented.

The inspectors returned to Mr. Butterworth's office and presented him with a "Receipt for Samples and Documents." He signed the receipt and returned it to the inspectors. The inspectors requested copies of PCB sampling analyses for the TCE degreasing operation, and the former PCB filling operation. Mr. Butterworth said he would try to obtain copies of these analyses and mail them to the inspectors. To date this information has not been received.

LIST OF ATTACHMENTS

AEROVOX INDUSTRIES, INC.
740 BELLEVILLE AVENUE
NEW BEDFORD, MASSACHUSETTS 02741

JUNE 18, 1981

ATTACHMENTS:

A. PCB Analytical Report
B. Photographs
C. Notice of Inspection
D. Notice of Confidentiality
E. Receipt for Samples and Documents
F. Chain of Custody Record

ATTACHMENTS OBTAINED FROM FACILITY:

1. Letter to EPA explaining prior PCB usage at Aerovox Industries, Inc. (3 pages)
2. PCB Purchase and Disposal Chart for 1971-1975 (1 page)
3. PCB Annual Report for 7/78 - 7/79 (3 pages)
4. PCB Annual Report for 7/79 - 7/80 (3 pages)
5. PCB Disposal Invoice for 11/14/80 (1 page)

ATTACHMENT A

Versar Inc.

PCB ANALYTICAL REPORT

PREPARED FOR: Mr. Jon Byroade

REF. # 717.7

Facility Inspected AEROVOX INDUSTRIES, INC.

SAMPLE NO.	LAB NO.	CONCENTRATION PARTS/MILLION	AROCLOR	COMMENTS
AUX-01	4656	<1	—	Oil
AUX-02	4657	200	1254	Soil
AUX-03	4658	22,000	1254	Soil
AUX-04	4659	40	1242	Soil
AUX-05	4660	170	1242	Oil
AUX-06	4661	24,000	1254	Soil
AUX-07	4662	11,000	1242	Soil
AUX-08	4663	23,000	1242	Soil
AUX-09	4664	<1	—	Oil

DATE: 8/19/81

Mark T. Carkhuff

MARK T. CARKHUFF, CHEMIST
APPLIED CHEMISTRY DIVISION

6621 ELECTRONIC DRIVE, SPRINGFIELD, VIRGINIA 22151 TELEPHONE: (703) 750-3000

ATTACHMENT B

AEROVOX INDUSTRIES, INC.
740 BELLEVILLE AVENUE
NEW BEDFORD, MASSACHUSETTS 02741

JUNE 18, 1981

1. A view of oil-impregnated soil in culvert 001.
2. A soil sample being collected from NPDES Outfall 001.
3. Another look at culvert 001.
4. The bend in culvert 002 where a soil sample was collected.
5. Soil sample collected from a stained area in backyard substation.
6. Outfall 002, where a soil sample was collected. Notice the black stained area along the sides of the outfall.

PHOTOGRAPHS
JUNE 18, 1981

1. A view of oil-impregnated soil in culvert 001.

2. A soil sample being collected from NPDES Outfall 001.

PHOTOGRAPHS
JUNE 18, 1981

3. Another look at culvert 001.

4. The bend in culvert 002 where a soil sample was collected.

PHOTOGRAPHS
JUNE 18, 1981

5. Soil sample collected from a stained area in backyard substation.

6. Outfall 002, where a soil sample was collected. Notice the black stained area along the sides of the outfall.

ATTACHMENT C

EPA United States Environmental Protection Agency

NOTICE OF INSPECTION

Inspector Name and Address: Paul Schlaman, Bob Murphy	Firm Address: Aerovox Inc. 740 Belleville Ave. New Bedford, Mass 02741
Inspector's Signature: P.O. Schlaman	Date: 6/18/81 Time: 9:20 AM
Title: Compliance Auditor	Name and Title of Recipient: Clifford M Tuttle Jr.
	Signature of Recipient: C.M. Tuttle Jr.

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act

☑ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been compiled with.

☐ In addition, this inspection extends to (circle appropriate letters):

(A) Financial data
(B) Sales data
(C) Pricing data
(D) Personnel data
(E) Reserach data

The nature and extent of inspection of such data specified in A through E above as follows: